Morphological and Cultural Characterization of Phytophthora colocasiae Isolates Collected from Taro Growing Areas of Southern Ethiopia

Zerhun Tomas^{1*}, Elfnesh Shikur² and Alemar Said¹

¹Department of Plant Pathology, South Agricultural Research Institute, Areka Agricultural Research Center, Areka, Ethiopia ²Department of Plant and Horticultural Science, College of Agriculture, Hawassa University, Hawassa, Ethiopia

Abstract

Leaf blight of taro caused by Phytophthora colocasiae has been responsible for the serious decline in yield of taro. In Ethiopia it has contributed to the decline in taro production but still farmers have not recognized taro leaf blight as a disease associating its symptom with a maturity stage of the crop and impact of heavy rain fall. Survey was carried out to isolate the pathogen from diferent taro growingm M

sporangia. Sporangia type for isolate A, B, D, E, G, I, L and M were Semi papillate whereas isolate C, F, H, J, K, N and O have papillate. Sporangia shape for isolate A, G, H, J, L, M and N were lemon, isolate B, C, F and O were Globose where as isolate D, E, I and K have Ovoid shaped sporangia. The color of colony is ranging from white to dull white, cottony to moderately cottony in texture and abundance of mycelium is profuse to slightly sparse growth on PDA plates. Diferences were observed among the isolates with respect to growth rate per day, cardinal growth temperature response and virulence level. Growth rate of the isolates was between 5and 14 mm/day in diameter. The isolates responded well to the growth temperatures they exposed. There were signifcant diferences among isolates in their growth temperature responses at 20 C, 28 C and 38 C.

Keywords:

Introduction

· · · · · · · · · · · · · · · · · · ·		·····	-,, •
··· /···· · ··························		·	···· Y
1 4 1	· · · · · · · · · · · · · · · · · · ·		,
· ···· · · · · · · · · · · · · · · · ·	(1, , (1, , , , , , , , , , , , , , , ,), ,	· · · · · · · · · ·
····· • • • • • • • • • • • • • • • • •	··· , , · · · · · , , , · · ·		
······································)., , , , , , , , , , , , , , , , , , ,	······································	X
		· · · · · · · · · · · · · · · · · · ·	· • · · · · · · · · · · · · · · · · · ·

*Corresponding author: Zerhun Tomas, Department of Plant Pathology, South Agricultural Research Institute, Areka Agricultural Research Center, Areka, Ethiopia, E-mail: zerhuntomas1977@gmail.com

Received: 01-Aug-2023, Manuscript No. acst-23-108509; Editor assigned: 03-Aug-2023, PreQC No. acst-23-108509 (PQ); Reviewed: 19-Aug-2023, QC No. acst-23-108509; Revised: 24-Aug-2023, Manuscript No. acst-23-108509 (R); Published: 31-Aug-2023, DOI: 10.4172/2329-8863.1000607

Citation: Tomas Z, Shikur E, Said A (2023) Morphological and Cultural Characterization of Phytophthora colocasiae Isolates Collected from Taro Growing Areas of Southern Ethiopia. Adv Crop Sci Tech 11: 607.

Copyright: © 2023 Tomas Z, et al. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

Citation: Tomas Z, Shikur E, Said A (2023) Morphological and Cultural Characterization of *Phytophthora colocasiae* Isolates Collected from Taro Growing Areas of Southern Ethiopia. Adv Crop Sci Tech 11: 607.



Citation: Tomas Z, Shikur E, Said A (2023) Morphological and Cultural Characterization of *Phytophthora colocasiae* Isolates Collected from Taro Growing Areas of Southern Ethiopia. Adv Crop Sci Tech 11: 607.

Citation: Tomas Z, Shikur E, Said A (2023) Morphological and Cultural Characterization of *Phytophthora colocasiae* Isolates Collected from Taro Growing Areas of Southern Ethiopia. Adv Crop Sci Tech 11: 607.

- Ristaino JB (2012) A lucid key to the common species of Phytophthora. Plant Disease 96 (6): 897-903.
- Simon Adebo (1992) Taro roots in North Omo Farm Africa. AA Ethiopia FPR TPP 2.
- Stewart B, Dagnachew Y (1967). Index of plant diseases in Ethiopia. Haile Selassie I University College of Agriculture Debre Zeit 95.
- Tewodros M (2012) Diversity analysis of taro Colocasiae esculenta in Ethiopia. Lambert Academic Publishing 72.
- Tsopmbeng GR, Fontem DA, Yamde KF (2012) Evaluation of culture media for growth and sporulation of Phytophthora colocasiae Racib Causal agent of taro leaf blight. International Journal of Biological Chemistry Sciences 6 (4): 1566-1573.